

Experiment Number: 20515 - 04

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 03/08/2013

Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

F1_M3

NTP Study Number: C20515
Lock Date: 01/12/2011
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.1.1_001
PWG Approval Date: NONE

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First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE

Control

10 mg/m3

30 mg/m3

100 mg/m3

Disposition Summary

	Control	10 mg/m3	30 mg/m3	100 mg/m3
Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	5	12	7	4
Natural Death	6	7	7	6
Survivors				
Terminal Sacrifice	39	31	36	40
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Gallbladder	(44)	(44)	(44)	(44)
Cytoplasmic Alteration				1 [2.0]
Inflammation, Suppurative	1 [1.0]			1 [1.0]
Intestine Large, Cecum	(50)	(50)	(49)	(49)
Hemorrhage			1 [3.0]	
Intestine Large, Colon	(50)	(50)	(50)	(50)
Ulcer		1 [2.0]		
Intestine Large, Rectum	(50)	(50)	(50)	(49)
Cyst		1 [1.0]		
Fibrosis		1 [1.0]		
Intestine Small, Duodenum	(49)	(48)	(48)	(47)
Artery, Infiltration Cellular, Lymphocyte	1 [2.0]			
Intestine Small, Ileum	(50)	(50)	(49)	(48)
Hyperplasia, Lymphoid				1 [1.0]
Inflammation, Chronic Active			2 [3.0]	2 [2.5]
Epithelium, Hyperplasia	1 [3.0]			
Lymphoid Follicle, Hyperplasia	1 [4.0]			
Peyer's Patch, Hyperplasia, Lymphoid	1 [3.0]			
Intestine Small, Jejunum	(50)	(48)	(49)	(48)
Inflammation, Chronic Active			1 [3.0]	
Serosa, Inflammation, Granulomatous				1 [1.0]
Liver	(50)	(50)	(50)	(49)
Angiectasis		1 [2.0]		

a - Number of animals examined microscopically at site and number of animals with lesion

b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

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First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Basophilic Focus	1	3		4
Clear Cell Focus	10	9	3	6
Congestion		1 [1.0]	1 [1.0]	
Cyst		1 [3.0]	1 [2.0]	
Eosinophilic Focus	14	3	20	17
Fatty Change	24 [1.4]	22 [1.3]	24 [1.5]	25 [1.3]
Hepatodiaphragmatic Nodule	1		1	
Hyperplasia	1 [4.0]	1 [2.0]	1 [2.0]	
Infiltration Cellular, Lymphocyte			1 [2.0]	
Inflammation, Chronic	1 [4.0]			
Inflammation, Chronic Active				1 [3.0]
Mixed Cell Focus	6	4	11	5
Necrosis	5 [2.0]	7 [2.4]	6 [2.3]	7 [2.0]
Tension Lipidosis	3 [1.0]	2 [1.5]	5 [1.3]	7 [1.4]
Mesentery	(4)	(5)	(3)	(4)
Inflammation, Chronic Active		1 [3.0]	1 [3.0]	
Arteriole, Inflammation, Chronic Active		1 [3.0]		
Artery, Inflammation, Chronic Active				1 [3.0]
Fat, Necrosis	1 [2.0]	2 [1.5]	2 [1.5]	3 [1.3]
Pancreas	(50)	(50)	(50)	(50)
Fibrosis	1 [4.0]			
Lipomatosis		1 [2.0]		
Necrosis				1 [2.0]
Acinus, Hypertrophy	1 [1.0]	1 [2.0]		
Artery, Inflammation, Chronic Active		1 [2.0]		
Salivary Glands	(50)	(50)	(50)	(50)
Infiltration Cellular, Lymphocyte		1 [1.0]		
Stomach, Forestomach	(50)	(50)	(50)	(50)
Cyst, Squamous		1 [1.0]		
Hyperplasia, Squamous	2 [3.0]	2 [2.0]	1 [4.0]	3 [3.0]
Inflammation, Chronic Active	1 [3.0]	2 [2.5]	1 [2.0]	
Ulcer			1 [2.0]	
Stomach, Glandular	(50)	(50)	(50)	(50)
Erosion	1 [2.0]			
Inflammation, Chronic Active	1 [1.0]			2 [2.0]
Ulcer				1 [3.0]

a - Number of animals examined microscopically at site and number of animals with lesion

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Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

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Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Arteriole, Serosa, Inflammation, Chronic Active Glands, Mineralization		1 [2.0]		
Tooth	(50)	(47)	2 [1.0] (49)	1 [1.0] (50)
Dysplasia	43 [1.3]	35 [1.3]	41 [1.6]	40 [1.8]
Inflammation, Chronic Active	3 [3.0]	1 [4.0]	6 [2.2]	5 [2.6]

CARDIOVASCULAR SYSTEM

Blood Vessel	(45)	(49)	(48)	(48)
Inflammation, Chronic Active	1 [2.0]			
Aorta, Inflammation, Chronic Active		1 [2.0]		
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	2 [2.0]	3 [2.0]	1 [2.0]	2 [2.0]
Inflammation, Suppurative			1 [3.0]	
Inflammation, Chronic Active				1 [3.0]
Thrombosis	1 [4.0]			2 [2.5]
Artery, Inflammation, Chronic Active		1 [3.0]		1 [1.0]
Valve, Fibrosis			1 [1.0]	

ENDOCRINE SYSTEM

Adrenal Cortex	(49)	(50)	(50)	(50)
Hyperplasia	24 [1.3]	23 [1.3]	26 [1.5]	24 [1.5]
Capsule, Inflammation, Chronic Active	1 [3.0]			
Adrenal Medulla	(48)	(50)	(50)	(50)
Hyperplasia		1 [1.0]		2 [1.5]
Islets, Pancreatic	(50)	(50)	(50)	(50)
Parathyroid Gland	(34)	(28)	(27)	(21)
Cyst	1 [1.0]			
Pituitary Gland	(50)	(50)	(50)	(48)
Angiectasis				1 [1.0]
Pars Distalis, Cyst	1 [1.0]			1 [1.0]
Pars Distalis, Hyperplasia	5 [1.2]	8 [1.3]	7 [1.4]	2 [1.0]
Pars Intermedia, Hypertrophy		1 [2.0]		
Thyroid Gland	(50)	(50)	(49)	(50)

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Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Inflammation, Chronic Active Follicular Cell, Hyperplasia			1 [1.0] 1 [2.0]	1 [2.0]
GENERAL BODY SYSTEM				
Tissue NOS	(0)	(2)	(0)	(1)
GENITAL SYSTEM				
Epididymis	(50)	(50)	(50)	(50)
Inflammation, Chronic Active	1 [1.0]	1 [3.0]		2 [2.5]
Spermatocele		1 [2.0]		
Penis	(0)	(0)	(0)	(1)
Congestion				1 [2.0]
Preputial Gland	(50)	(49)	(48)	(49)
Ectasia	8 [2.1]	4 [2.3]	7 [3.0]	7 [2.7]
Inflammation, Chronic Active	9 [2.2]	4 [2.3]	11 [2.3]	4 [2.3]
Prostate	(50)	(49)	(50)	(50)
Seminal Vesicle	(50)	(50)	(50)	(50)
Dilatation			1 [2.0]	1 [2.0]
Testes	(50)	(50)	(50)	(50)
Angiectasis				1 [3.0]
Nuclear Alteration, Focal		1 [2.0]		
Germinal Epithelium, Atrophy	1 [2.0]	4 [1.5]		3 [2.0]
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia			1 [3.0]	
Hyperplasia, Granulocytes				1 [4.0]
Lymph Node	(4)	(3)	(1)	(1)
Lumbar, Infiltration Cellular, Mixed Cell	1 [2.0]			
Lumbar, Inflammation, Pyogranulomatous				1 [4.0]
Lumbar, Lymphoid Follicle, Hyperplasia	1 [4.0]			

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Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Lymphoid Follicle, Renal, Hyperplasia	1 [4.0]			
Pancreatic, Inflammation, Pyogranulomatous				1 [4.0]
Renal, Inflammation, Pyogranulomatous				1 [4.0]
Lymph Node, Bronchial	(26)	(31)	(26)	(18)
Infiltration Cellular, Polymorphonuclear	1 [2.0]			
Lymph Node, Mandibular	(31)	(36)	(34)	(33)
Hyperplasia, Lymphoid		2 [2.0]	1 [2.0]	
Infiltration Cellular, Plasma Cell		1 [2.0]		
Inflammation, Pyogranulomatous				1 [4.0]
Lymph Node, Mediastinal	(39)	(39)	(32)	(35)
Hematopoietic Cell Proliferation			1 [2.0]	
Hyperplasia, Plasma Cell			1 [2.0]	
Infiltration Cellular, Mixed Cell			1 [2.0]	
Inflammation, Pyogranulomatous				1 [4.0]
Lymphoid Follicle, Hyperplasia	1 [4.0]			
Lymph Node, Mesenteric	(49)	(50)	(48)	(49)
Fibrosis	1 [4.0]			
Hemorrhage		1 [2.0]	1 [4.0]	
Hyperplasia, Plasma Cell			1 [2.0]	
Infiltration Cellular, Histiocyte			1 [3.0]	
Inflammation, Pyogranulomatous				1 [4.0]
Lymphoid Follicle, Hyperplasia	1 [4.0]			
Spleen	(50)	(50)	(49)	(49)
Congestion			1 [2.0]	
Fibrosis		1 [3.0]		
Hematopoietic Cell Proliferation	1 [2.0]	1 [2.0]	3 [2.0]	1 [3.0]
Lymphoid Follicle, Hyperplasia	3 [3.7]	2 [2.5]	1 [3.0]	1 [4.0]
Thymus	(41)	(38)	(39)	(41)
Atrophy			1 [1.0]	1 [2.0]

INTEGUMENTARY SYSTEM

Mammary Gland	(1)	(0)	(1)	(0)
Skin	(50)	(49)	(50)	(50)
Abscess				1 [3.0]

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Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Angiectasis			1 [2.0]	
Inflammation, Chronic Active	2 [2.5]	4 [2.3]	1 [3.0]	3 [2.7]
Ulcer	1 [3.0]	4 [3.0]	2 [3.5]	
Epidermis, Hyperplasia				1 [1.0]
Sebaceous Gland, Hyperplasia		1 [2.0]		

MUSCULOSKELETAL SYSTEM

Bone	(50)	(50)	(50)	(50)
Fibro-Osseous Lesion	7 [1.3]	7 [1.3]	10 [1.3]	7 [1.1]
Cranium, Fracture		1 [3.0]		
Cranium, Inflammation, Chronic Active	3 [2.7]	2 [3.5]	3 [3.0]	5 [3.0]
Joint, Vertebra, Fracture		1 [1.0]		
Maxilla, Necrosis		1 [3.0]		
Skeletal Muscle	(1)	(3)	(2)	(3)
Infiltration Cellular, Lymphocyte		1 [1.0]		
Infiltration Cellular, Mixed Cell				1 [1.0]
Inflammation, Chronic Active				1 [3.0]

NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Inflammation, Suppurative			1 [2.0]	
Thrombosis			1 [2.0]	
Arteriole, Inflammation, Chronic Active		1 [2.0]		
Ventricle, Dilatation			1 [3.0]	
Venule, Infiltration Cellular, Lymphoid		1 [1.0]		
Peripheral Nerve	(1)	(2)	(1)	(2)
Spinal Cord	(1)	(3)	(1)	(2)

RESPIRATORY SYSTEM

Larynx	(50)	(50)	(49)	(50)
Hyperplasia			1 [2.0]	

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Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Inflammation, Suppurative		1 [1.0]		1 [1.0]
Inflammation, Chronic Active		2 [1.5]	3 [1.0]	8 [1.0]
Metaplasia, Squamous		50 [1.0]	49 [2.0]	50 [3.4]
Necrosis		1 [2.0]	1 [1.0]	1 [1.0]
Lung	(50)	(50)	(50)	(50)
Congestion			1 [2.0]	
Erythrophagocytosis		1 [2.0]		
Hemorrhage			2 [1.5]	1 [3.0]
Infiltration Cellular, Histiocyte	5 [1.6]	5 [1.6]	1 [1.0]	9 [2.0]
Inflammation, Acute			1 [3.0]	
Thrombosis	1 [1.0]			
Alveolar Epithelium, Hyperplasia	4 [1.3]	4 [1.3]	6 [2.3]	7 [2.6]
Bronchiole, Hyperplasia	11 [1.0]	11 [1.1]	32 [1.2]	44 [1.1]
Interstitial, Inflammation, Chronic Active	1 [2.0]		1 [1.0]	1 [1.0]
Perivascular, Inflammation, Chronic Active	1 [3.0]	1 [2.0]	1 [3.0]	1 [3.0]
Nose	(50)	(50)	(50)	(50)
Inflammation, Chronic Active	6 [1.3]	8 [2.1]	4 [1.5]	12 [1.7]
Necrosis	2 [1.0]	2 [3.0]		1 [1.0]
Nasopharyngeal Duct, Necrosis				1 [1.0]
Olfactory Epithelium, Accumulation, Hyaline Droplet	4 [1.3]	31 [1.5]	43 [1.8]	49 [2.6]
Olfactory Epithelium, Atrophy	1 [1.0]			4 [1.0]
Olfactory Epithelium, Metaplasia, Respiratory	7 [1.1]	15 [1.3]	25 [1.2]	37 [1.5]
Olfactory Epithelium, Necrosis		1 [1.0]		
Respiratory Epithelium, Accumulation, Hyaline Droplet	7 [1.1]	36 [1.4]	50 [1.8]	50 [2.6]
Respiratory Epithelium, Hyperplasia	38 [1.6]	44 [1.5]	36 [1.6]	41 [1.6]
Respiratory Epithelium, Metaplasia, Squamous		3 [1.3]		1 [1.0]
Turbinate, Atrophy				1 [2.0]
Turbinate, Degeneration	1 [2.0]	1 [3.0]		
Pleura	(1)	(0)	(0)	(0)
Trachea	(50)	(50)	(47)	(50)
Ulcer				1

SPECIAL SENSES SYSTEM

a - Number of animals examined microscopically at site and number of animals with lesion

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First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE MALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Eye	(50)	(50)	(50)	(50)
Atrophy	1 [4.0]			
Cornea, Hyperplasia, Squamous				1 [1.0]
Cornea, Inflammation, Chronic Active		4 [2.8]	2 [2.5]	2 [1.5]
Cornea, Vacuolization Cytoplasmic	2 [1.0]			
Lens, Degeneration	1 [2.0]	1 [3.0]		1 [1.0]
Harderian Gland	(50)	(50)	(49)	(50)
Cyst		1 [1.0]		
Hyperplasia	2 [3.0]	1 [2.0]	3 [2.3]	2 [3.0]

URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Congestion	1 [1.0]			
Cyst	4	2	3	5
Dilatation	1 [3.0]			
Infarct	3 [2.0]	1 [2.0]	4 [2.5]	2 [2.0]
Inflammation, Suppurative			1 [4.0]	
Inflammation, Chronic Active	1 [3.0]			
Metaplasia, Osseous	1 [1.0]	1 [1.0]		
Nephropathy	48 [2.0]	48 [1.9]	45 [2.0]	48 [2.1]
Artery, Hemorrhage	1 [3.0]			
Artery, Inflammation, Chronic Active	1 [3.0]	3 [2.3]		
Capsule, Fibrosis		1 [1.0]		
Capsule, Hemorrhage		1 [3.0]		
Papilla, Necrosis		1 [2.0]		
Pelvis, Inflammation, Suppurative		1 [2.0]		
Ureter	(0)	(0)	(0)	(1)
Inflammation, Chronic Active				1 [4.0]
Urinary Bladder	(50)	(50)	(50)	(49)

*** END OF MALE ***

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Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Accidentally Killed				1
Moribund Sacrifice	7	8	10	11
Natural Death	4	5	3	5
Survivors				
Terminal Sacrifice	39	37	37	33
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Gallbladder	(46)	(49)	(41)	(41)
Epithelium, Hyperplasia		1 [2.0]		
Intestine Large, Cecum	(50)	(50)	(49)	(50)
Hyperplasia		1 [3.0]		
Inflammation, Chronic Active			1 [1.0]	
Intestine Large, Colon	(49)	(50)	(49)	(50)
Intestine Large, Rectum	(50)	(50)	(50)	(50)
Inflammation, Chronic Active			1 [2.0]	1 [2.0]
Intestine Small, Duodenum	(47)	(50)	(50)	(49)
Intestine Small, Ileum	(49)	(50)	(49)	(49)
Inflammation, Chronic Active			1 [1.0]	
Intestine Small, Jejunum	(48)	(50)	(48)	(48)
Liver	(50)	(50)	(50)	(50)
Amyloid Deposition				1 [2.0]
Angiectasis		2 [1.0]	1 [1.0]	2 [2.0]
Basophilic Focus	6	5	3	4
Clear Cell Focus	1			
Cyst		1		1
Degeneration		1 [3.0]		
Eosinophilic Focus	6	1	5	13
Fatty Change	3 [2.0]	2 [1.5]	1 [1.0]	5 [2.4]
Hyperplasia		1 [1.0]		

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Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Infiltration Cellular, Lymphocyte		1 [1.0]		1 [1.0]
Infiltration Cellular, Mixed Cell		1 [3.0]		
Inflammation, Chronic Active			1 [2.0]	
Mixed Cell Focus	2	4	1	
Necrosis	2 [2.0]		2 [2.0]	4 [2.3]
Tension Lipidosis	6 [1.3]	5 [1.0]	5 [1.0]	6 [1.3]
Vacuolization Cytoplasmic	1 [1.0]			
Centrilobular, Degeneration, Acute		1 [2.0]		
Centrilobular, Hypertrophy			1 [3.0]	
Centrilobular, Necrosis		1 [2.0]		
Mesentery	(16)	(23)	(21)	(15)
Angiectasis	1 [2.0]			
Cyst	1 [3.0]			
Fibrosis			1 [2.0]	
Inflammation, Suppurative			1 [3.0]	
Inflammation, Chronic Active	1 [2.0]	1 [2.0]	1 [2.0]	
Necrosis		1 [1.0]	1 [2.0]	
Arteriole, Inflammation, Chronic Active			1 [3.0]	
Fat, Cyst			1 [1.0]	
Fat, Necrosis	11 [1.5]	17 [1.7]	7 [1.6]	8 [1.8]
Vein, Inflammation, Chronic Active				1 [3.0]
Pancreas	(50)	(50)	(50)	(50)
Cyst		1 [3.0]		
Fibrosis	1 [4.0]			
Inflammation, Chronic Active	1 [2.0]			1 [3.0]
Lipomatosis		1 [2.0]		1 [1.0]
Acinus, Atrophy	1 [3.0]		1 [2.0]	2 [2.5]
Acinus, Hyperplasia				1 [2.0]
Acinus, Hypertrophy			1 [1.0]	1 [1.0]
Salivary Glands	(50)	(50)	(50)	(49)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Fibrosis	1 [1.0]			
Hyperplasia, Squamous	1 [4.0]	1 [3.0]	2 [2.5]	2 [3.5]
Inflammation, Chronic Active				1 [2.0]
Ulcer		1 [1.0]	1 [2.0]	1 [1.0]
Arteriole, Inflammation, Chronic Active			1 [1.0]	

a - Number of animals examined microscopically at site and number of animals with lesion

b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Stomach, Glandular	(50)	(50)	(50)	(50)
Degeneration, Hyaline	1 [1.0]			
Fibrosis			1 [1.0]	
Inflammation, Chronic Active	1 [1.0]			
Ulcer				1 [1.0]
Arteriole, Inflammation, Chronic Active			1 [3.0]	
Glands, Mineralization			2 [1.0]	1 [1.0]
Tooth	(1)	(0)	(2)	(4)
Dysplasia	1 [3.0]		2 [2.0]	3 [1.7]
Inflammation, Chronic Active				2 [2.0]

CARDIOVASCULAR SYSTEM

Blood Vessel	(46)	(44)	(49)	(44)
Inflammation, Chronic Active			1 [3.0]	
Aorta, Embolus Bacterial	1 [3.0]			1 [3.0]
Aorta, Inflammation, Suppurative				1 [3.0]
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	1 [2.0]	3 [2.0]	8 [1.9]	5 [2.0]
Congestion		1 [1.0]		1 [2.0]
Mineralization			1 [1.0]	
Necrosis	1 [2.0]	1 [2.0]		1 [3.0]
Thrombosis		1 [3.0]		
Artery, Inflammation, Chronic Active	1 [3.0]			
Capillary, Hyperplasia	1 [1.0]			

ENDOCRINE SYSTEM

Adrenal Cortex	(49)	(50)	(50)	(50)
Angiectasis	1 [2.0]			
Atrophy			1 [1.0]	1 [2.0]
Degeneration, Cystic		1 [2.0]		
Hyperplasia	10 [1.3]	5 [1.4]	10 [1.1]	6 [1.2]
Vacuolization Cytoplasmic	2 [2.5]	2 [3.0]		2 [4.0]
Adrenal Medulla	(49)	(50)	(49)	(50)

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Metal working fluids (CIMSTAR 3800)

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Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Hyperplasia	2 [1.5]	1 [2.0]	2 [1.5]	4 [1.8]
Islets, Pancreatic	(50)	(50)	(50)	(49)
Parathyroid Gland	(26)	(29)	(22)	(25)
Cyst		1 [1.0]		
Hyperplasia	1 [4.0]			
Pituitary Gland	(50)	(50)	(49)	(50)
Angiectasis	2 [2.5]	1 [3.0]		4 [3.0]
Pars Distalis, Cyst		1 [2.0]		1 [2.0]
Pars Distalis, Hyperplasia	17 [1.9]	21 [1.7]	19 [1.8]	24 [2.3]
Pars Intermedia, Pars Nervosa, Cyst				1 [2.0]
Thyroid Gland	(50)	(48)	(50)	(50)
Inflammation, Chronic Active		1 [1.0]	2 [1.5]	2 [1.5]
C-cell, Hyperplasia	1 [3.0]	1 [2.0]		
Follicle, Cyst		1 [2.0]		
Follicular Cell, Hyperplasia	1 [2.0]	1 [2.0]	2 [2.0]	3 [2.3]

GENERAL BODY SYSTEM

Tissue NOS	(3)	(2)	(0)	(0)
Mediastinum, Infiltration Cellular, Lymphocyte	1 [3.0]			
Mediastinum, Thrombosis	1 [1.0]			

GENITAL SYSTEM

Clitoral Gland	(44)	(45)	(43)	(44)
Hyperplasia, Basal Cell				1 [1.0]
Inflammation, Chronic Active	1 [1.0]	1 [1.0]	1 [3.0]	
Ovary	(50)	(50)	(48)	(50)
Angiectasis	3 [2.3]	2 [1.5]		3 [3.3]
Cyst	14 [2.0]	12 [2.0]	12 [1.9]	16 [1.8]
Hemorrhage	12 [1.0]	16 [1.1]	7 [1.4]	15 [1.1]
Infiltration Cellular, Lymphocyte		1 [2.0]	1 [1.0]	
Inflammation, Chronic Active	1 [3.0]	2 [3.0]	3 [3.3]	2 [3.0]
Mineralization	1 [2.0]			1 [3.0]
Necrosis	1 [1.0]			

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Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Thrombosis				1 [3.0]
Corpus Luteum, Hyperplasia	3 [1.3]	1 [2.0]		
Uterus	(50)	(50)	(50)	(50)
Angiectasis	5 [2.2]	3 [2.3]	1 [3.0]	1 [3.0]
Atrophy	1 [3.0]			
Decidual Reaction	1 [3.0]			
Dilatation	6 [2.8]	5 [2.2]	8 [3.1]	6 [2.7]
Hemorrhage				1 [2.0]
Inflammation, Suppurative	1 [2.0]			
Inflammation, Chronic Active	2 [1.5]	2 [2.0]	3 [1.7]	4 [2.3]
Thrombosis	1 [3.0]			
Endometrium, Hyperplasia, Cystic	28 [2.1]	29 [1.9]	33 [2.3]	34 [2.4]

HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(11)	(12)	(16)	(10)
Ectasia				1 [4.0]
Hemorrhage	1 [3.0]			
Iliac, Angiectasis		1 [3.0]		
Iliac, Ectasia	1 [4.0]			
Iliac, Hyperplasia, Lymphoid	1 [1.0]	1 [1.0]	1 [1.0]	
Iliac, Hyperplasia, Plasma Cell				1 [2.0]
Lumbar, Ectasia	1 [1.0]	1 [2.0]	2 [3.5]	
Lumbar, Hyperplasia, Lymphoid		1 [3.0]		1 [1.0]
Lumbar, Infiltration Cellular, Histiocyte		1 [2.0]		
Lumbar, Infiltration Cellular, Mixed Cell			1 [1.0]	
Pancreatic, Inflammation, Chronic Active	1 [4.0]			
Renal, Angiectasis		1 [3.0]		
Renal, Ectasia	1 [4.0]		1 [1.0]	
Renal, Hyperplasia, Lymphoid		2 [2.5]		
Renal, Necrosis			1 [2.0]	
Lymph Node, Bronchial	(26)	(27)	(28)	(27)
Infiltration Cellular, Histiocyte				1 [2.0]
Necrosis			1 [3.0]	

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Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Lymph Node, Mandibular Necrosis	(41)	(42)	(43) 1 [2.0]	(35)
Lymph Node, Mediastinal Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Infiltration Cellular, Mixed Cell	(43)	(46) 1 [1.0] 1 [3.0]	(40)	(47) 2 [2.0] 1 [3.0]
Lymph Node, Mesenteric Angiectasis Ectasia Hematopoietic Cell Proliferation Hemorrhage Hyperplasia, Lymphoid Infiltration Cellular, Histiocyte	(48)	(50) 1 [3.0] 1 [1.0] 2 [2.0]	(49) 2 [3.0] 2 [2.0] 1 [2.0]	(49) 1 [4.0]
Spleen Hematopoietic Cell Proliferation Hyperplasia, Lymphoid Infiltration Cellular, Mast Cell Lymphoid Follicle, Hyperplasia	(50) 4 [2.3]	(50) 3 [1.3] 1 [3.0]	(50) 3 [2.0] 1 [2.0] 1 [3.0]	(49) 2 [2.5] 1 [2.0] 1 [3.0]
Thymus Angiectasis Atrophy Hyperplasia, Lymphoid Necrosis	(44) 2 [1.5] 1 [3.0]	(46)	(45) 1 [4.0]	(45) 1 [3.0] 1 [3.0]

INTEGUMENTARY SYSTEM

Mammary Gland Hyperplasia	(50) 2 [1.0]	(50)	(50)	(50) 1 [1.0]
Skin Infiltration Cellular, Mast Cell Inflammation, Chronic Active Ulcer Epidermis, Hyperplasia Subcutaneous Tissue, Fibrosis	(50)	(50)	(50) 1 [2.0] 1 [3.0] 1 [2.0] 1 [1.0]	(50) 1 [1.0] 2 [2.5] 3 [3.3]

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Test Type: CHRONIC

Metal working fluids (CIMSTAR 3800)

Time Report Requested: 14:13:47

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: CIMSTAR3800

First Dose M/F: 05/05/08 / 05/05/08

Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Fibro-Osseous Lesion	23 [1.4]	25 [1.5]	27 [1.5]	23 [1.5]
Cartilage, Femur, Metaphysis, Hyperplasia	1 [4.0]			
Cranium, Inflammation, Chronic Active	1 [3.0]		2 [2.0]	1 [3.0]
Femur, Fracture	1			
Femur, Tibia, Arthrosis				1 [2.0]
Maxilla, Hyperostosis			1 [1.0]	
Pelvis, Degeneration				1 [2.0]
Vertebra, Fracture				1 [4.0]
Skeletal Muscle	(3)	(3)	(1)	(4)
Degeneration				1 [2.0]
Infiltration Cellular, Lymphocyte	3 [1.3]	1 [1.0]		
Infiltration Cellular, Polymorphonuclear				1 [2.0]
Arteriole, Inflammation, Chronic Active			1 [3.0]	
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	3 [2.7]	1 [2.0]	2 [3.0]	3 [3.0]
Meninges, Inflammation, Chronic Active				1 [1.0]
Peripheral Nerve	(2)	(3)	(1)	(3)
Degeneration		1 [2.0]		1 [2.0]
Infiltration Cellular, Mixed Cell	1 [1.0]			
Infiltration Cellular, Polymorphonuclear		1 [2.0]		
Spinal Cord	(3)	(3)	(1)	(3)
Infiltration Cellular, Lymphocyte		1 [1.0]		
RESPIRATORY SYSTEM				
Larynx	(49)	(49)	(50)	(50)
Inflammation, Chronic Active				10 [1.2]
Metaplasia, Squamous	1 [1.0]	49 [1.1]	50 [2.1]	50 [3.5]

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Species/Strain: MICE/B6C3F1

Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Necrosis				4 [1.5]
Lung	(50)	(50)	(50)	(50)
Congestion				1 [3.0]
Hemorrhage	1 [2.0]	1 [2.0]	1 [1.0]	2 [1.5]
Infiltration Cellular, Histiocyte	4 [1.0]	1 [1.0]	1 [1.0]	6 [1.5]
Infiltration Cellular, Lymphocyte		1 [1.0]		
Infiltration Cellular, Mixed Cell				1 [1.0]
Metaplasia, Osseous		1 [1.0]		
Thrombosis				1 [3.0]
Alveolar Epithelium, Hyperplasia	4 [1.5]	2 [2.0]	5 [1.2]	4 [2.0]
Alveolus, Infiltration Cellular, Histiocyte	1 [1.0]			
Bronchiole, Hyperplasia	7 [1.0]	4 [1.0]	22 [1.0]	41 [1.0]
Interstitial, Inflammation, Chronic Active	1 [2.0]			1 [2.0]
Perivascular, Inflammation, Chronic Active	4 [1.8]	3 [1.7]		11 [2.0]
Nose	(50)	(49)	(50)	(50)
Inflammation, Chronic Active	9 [1.1]		3 [1.3]	5 [1.6]
Necrosis	1 [1.0]	1 [1.0]	2 [1.5]	1 [1.0]
Olfactory Epithelium, Accumulation, Hyaline Droplet	25 [1.8]	40 [1.9]	50 [2.6]	49 [3.0]
Olfactory Epithelium, Atrophy	1 [1.0]	1 [1.0]		1 [3.0]
Olfactory Epithelium, Metaplasia, Respiratory	3 [1.0]	4 [1.3]	12 [1.6]	23 [1.5]
Respiratory Epithelium, Accumulation, Hyaline Droplet	34 [1.6]	48 [1.7]	50 [2.6]	50 [3.0]
Respiratory Epithelium, Hyperplasia	39 [1.4]	48 [1.5]	39 [1.6]	39 [1.5]
Respiratory Epithelium, Metaplasia, Squamous		1 [1.0]		1 [1.0]
Respiratory Epithelium, Necrosis		1 [1.0]		
Trachea	(49)	(49)	(50)	(50)

SPECIAL SENSES SYSTEM

Eye	(50)	(50)	(50)	(50)
Atrophy			2 [4.0]	
Cornea, Inflammation, Chronic Active		1 [2.0]		1 [3.0]
Lens, Degeneration	2 [1.0]		2 [1.0]	1 [2.0]
Harderian Gland	(50)	(50)	(50)	(50)
Atrophy	1 [1.0]		1 [2.0]	

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Lab: BNW

B6C3F1 MICE FEMALE	Control	10 mg/m3	30 mg/m3	100 mg/m3
Hyperplasia	2 [3.0]	1 [1.0]	6 [2.2]	
Inflammation, Suppurative			1 [1.0]	
Inflammation, Chronic Active		1 [4.0]	1 [1.0]	

URINARY SYSTEM

Kidney	(50)	(50)	(50)	(50)
Accumulation, Hyaline Droplet	1 [2.0]	1 [2.0]		
Infarct	1 [2.0]	4 [2.0]	4 [2.0]	1 [3.0]
Inflammation, Suppurative				1 [2.0]
Metaplasia, Osseous		1 [1.0]	2 [1.5]	1 [1.0]
Necrosis	1 [1.0]			
Nephropathy	47 [1.5]	46 [1.8]	49 [1.6]	47 [1.4]
Glomerulus, Amyloid Deposition	1 [4.0]			1 [2.0]
Ureter	(0)	(0)	(1)	(0)
Urethra	(0)	(1)	(0)	(0)
Urinary Bladder	(50)	(50)	(50)	(50)
Angiectasis	1 [3.0]		1 [2.0]	
Arteriole, Inflammation, Chronic Active			1 [1.0]	
Artery, Serosa, Inflammation, Chronic Active		1 [3.0]		

*** END OF REPORT ***

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